

### Abstract of the Disclosure

A transmission for a work vehicle having PTO function is disclosed. The transmission includes a first transmission shaft for receiving engine power through a PTO power train, a second transmission shaft for receiving the engine power through a traveling power train, the second transmission shaft being coupled to a rear differential mechanism, a third transmission shaft coupled to a rear PTO, a fourth transmission shaft for receiving force from the second transmission shaft, a first gear transmission mechanism for transmitting the force from the first transmission shaft to the third transmission shaft. The first gear transmission mechanism has an input gear mounted on the first transmission shaft, an output gear mounted on the third transmission shaft and a relay gear loosely mounted on the second transmission shaft for transmitting the force from the input gear to the output gear. The transmission further includes a second gear transmission mechanism for transmitting the force from the second transmission shaft to the fourth transmission shaft. This second gear transmission mechanism has an input gear mounted on the second transmission shaft, an output gear mounted on the fourth transmission shaft and a relay gear loosely mounted on the third transmission shaft for transmitting the force from the input gear to the output gear.